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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/685,150 | 10/14/2003 | EikFun Khor | STL11368 | 4802 |
| 7590 | 03/21/2006 | | EXAMINER | |
| David K. Luente, Seagate Technology LLC Intellectual Property-COL2LGL 389 Disc Drive Longmont, CO 80503 | | | SNIEZEK, ANDREW L | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2627 | |

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-------------------------------|------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/685,150 | KHOR ET AL. |
| | Examiner Andrew L. Sniezek | Art Unit 2651 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 28 November 2005.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-3,5-12,14-17,19 and 22 is/are rejected.
- 7) Claim(s) 4,13,18,20 and 21 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

1. The following action is taken in view of the amendment filed 11/28/05 and subsequent updated search.

Claim Objections

2. Claim 6 is objected to under 37 CFR 1.75(a) as not particularly and distinctly setting for the claimed invention. Claim 6 appears that it should depend on claim 1 not claim 5 since as presently set forth there is two steps (b1) in the claim dependency 6/5/1, each being different from one another.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 5, 8-12, 14 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Chainer et al. (US006603627B1).

Re claim 1: Chainer et al. teaches a method that includes positioning a data surface adjacent a head (achieved by structure in figure 1) and determines a track range based on several lateral positions while urging the actuator against a stop (operation of figure 3).

Re claim 5: Satisfied by Chainer et al. since stop limits travel of head and therefore the extent of reading of the tracks.

Re claim 8: The claimed another surface's track range is deemed satisfied when a second disk is used with the method taught by Chainer et al.

Re claim 9: See figure 3.

Re claim 10: Chainer et al. teaches a method of urging an actuator against a stop while identifying several tracks (figure 3).

Re claim 11: Clearly the arrangement of Chainer et al. can't read beyond the range head is allowed to travel due to the stop.

Re claim 12: The most extreme track is satisfied due to head travel limited by the stop.

Re claim 14: The range limitation is satisfied due to head travel limited by the stop.

Re claim 16: See structure of figure 1.

5. Claims 1-3 and 5-12, 14, 16, 19 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Takaishi et al. (6,819,519).

Takaishi et al. teaches a method as disclosed with respect to figures 4-7 along with corresponding disclosure that positions a head adjacent a data surface (column 5, lines 61-67) and determines accessible track range when the head is urged against a common position. Note column 6, lines 1-45 along with figures 5 and 6.

Re claim 2: note figures 1-3:

Re claim 3: note in figure 3 the STW initially writes a servo pattern, thereafter the disk is placed in a HDD.

Re claim 5: Note figure 6, which shows reading lowest, track the stop permits.

Re claim 6: The claimed guard band is deemed inherently taught by the tracks located before the determined starting track (figure 4-5).

Re claim 7: The claimed margin is deemed satisfied by the margin discussed in column 5, lines 44-48 that takes into account thermal deformation or deformation due to impact.

Re claim 8: See figures 8-9.

Re claim 9: Note column 5, line 60 – column 6, line 9.

Re claim 10: Takaishi et al. teaches a method that urges a head against a stop (Note column 5, line 60 – column 6, line 9) while identifying each of several tracks (note figures 6-7 along with corresponding disclosure)

Re claims 11-12: Note track 100 in figure 6 which is deemed to satisfy the highest-numbered track and the most extreme on of the track identifications.

Re claim 14: The range limitation is satisfied due to head travel limited by the stop.

Re claim 15: Note figure 3.

Re claim 16: Note that the stopper and the spindle are attached to a base either directly or indirectly as depicted in figures 1 and 3.

Re claim 19: Takaishi et al. an actuator (5) a stop (50, 51) that defines the range of motion of the head such that only some tracks are only partially accessible (see figure 6) and a controller (MCU 8) that determines the first track that is completely accessible. Tracks prior to the location are considered to form an inherent guardband (note figure 6 along with corresponding disclosure).

Re claim 22: note figures 1, 3, 8 and 9.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chainer et al. in view of Lee

The teaching of Chainer et al. is discussed above and incorporated herein. The use of guard bands as set forth in claim 17 although not taught by Chainer et al. is satisfied by Lee (figure 3)to insure placements of data within a given range. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Lee in the arrangement of Chainer et al. to insure placements of data within a given range.

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takaishi et al. in view of Lee

The teaching of Takaishi et al. is discussed above and incorporated herein. The use of guard bands as set forth in claim 17 although not taught by Takaishi et al. is satisfied by Lee (figure 3) to insure placements of data within a given range. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Lee in the arrangement of Takaishi et al. to insure placements of data within a given range.

Allowable Subject Matter

10. Claim 4, 13, 18, 20, 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The method as set forth in claim 4/1 and 18/10 that include system tracks written with a head/track skew of about 0 degrees is neither taught by nor an obvious variation of the art of record. The claimed method as set forth in claim 13/10 that estimates an offset between a center of the several tracks and a center of rotation of the several tracks is neither taught by nor an obvious variation of the art of record. The claimed device as set forth in claim 20/19 that includes a guardband that includes several adjacent, fully-accessible tracks is neither taught by nor an obvious variation of the art of record. The claimed device as set forth in claim 21/19 that includes a controller configured to execute servo code that prevents any host command from accessing any tracks within the designated guardband is neither taught by nor an obvious variation of the art of record.

Response to Arguments

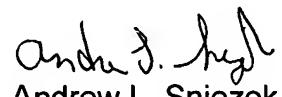
11. Applicant's arguments filed 11/28/05 have been fully considered but they are not persuasive. Applicant states with respect to claims 1 and 10 that Chainer et al. does not teach 1) determining a track range, 2) sensing several lateral track positions and 3) a common actuator position. Examiner does not agree with applicant's assessment of Chainer et al.

First as discussed in column 4, lines 8-45 it is clear that a common actuator position is the position the actuator is in when forced against the crashstop. At this position several lateral positions are sensed. Note that column 4, lines 8-11 indicates that a **series of tracks** are written when the actuator is placed against the crashstop. Thereafter a check is made for **all pairs** of tracks as described in column 4, lines 28-45 and column 5 lines 23-52, two at time. Note the read head overlaps 3 tracks at a time (column 4, lines 65 – column 5, line 3). By looking at the readback from each pair of tracks for all adjacent pairs a range of accessible tracks are found, i.e. note that when the actuator is forced against the crashstop only a given number of tracks can be read. This given number inherently determines the track range as claimed. As per applicants argument related to claim 10 that the actuator is moved from one position to the next in Chainer et al.; although a small movement might take place, this movement takes place while the actuator is at a common position. This common position is the position of the actuator while forced against the crashstop.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew L. Sniezek whose telephone number is 571-272-7563. The examiner can normally be reached on Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Andrew L. Sniezek
Primary Examiner
Art Unit 2651

A.L.S.
3/10/06